

Algorithms for Structural Dynamics Based Fiber Optic Strain Gage Health Monitoring, Phase II

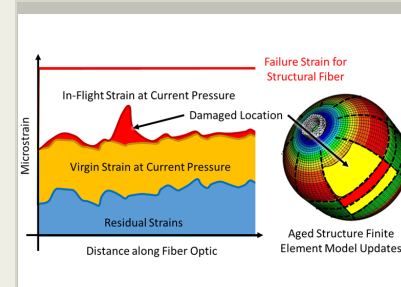
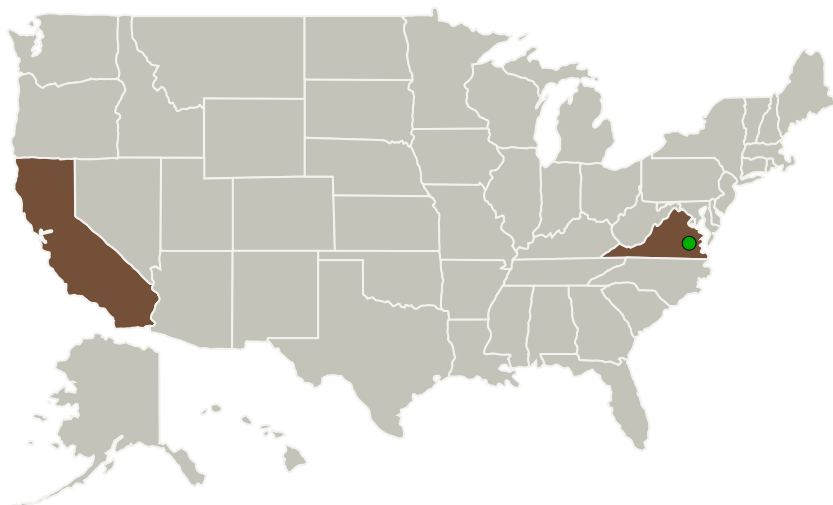
Completed Technology Project (2017 - 2020)



Project Introduction

By the completion of Phase II, San Diego Composites, Inc. (SDC) will establish a closed-loop system and software for the structural health monitoring (SHM) and manufacturing quality control (MQC) of composite overwrapped pressure vessels (COPVs) at TRL 6, and with Phase III funding at TRL 8. The program will focus the use of measured performance of the structure to update finite element models to determine remaining life and damaged/aged behavior.

Primary U.S. Work Locations and Key Partners



Algorithms for Structural Dynamics Based Fiber Optic Strain Gage Health Monitoring, Phase II Briefing Chart Image

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| Organizations Performing Work | Role | Type | Location |
|---------------------------------|-------------------------|-------------|-----------------------|
| San Diego Composites, Inc. | Lead Organization | Industry | San Diego, California |
| ● Langley Research Center(LaRC) | Supporting Organization | NASA Center | Hampton, Virginia |

Primary U.S. Work Locations

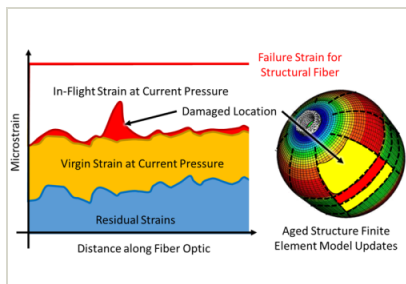
| | |
|------------|----------|
| California | Virginia |
|------------|----------|

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Images



Briefing Chart Image

Algorithms for Structural Dynamics Based Fiber Optic Strain Gage Health Monitoring, Phase II Briefing Chart Image
(<https://techport.nasa.gov/image/129958>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

San Diego Composites, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

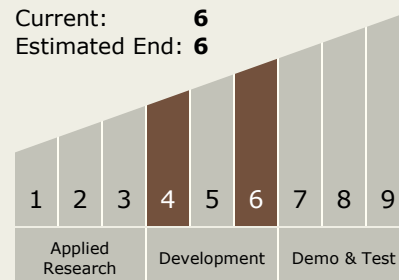
Carlos Torrez

Principal Investigator:

Jeremy A Senne

Technology Maturity (TRL)

Start: 4
Current: 6
Estimated End: 6



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Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
 - └ TX12.3 Mechanical Systems
 - └ TX12.3.4 Reliability, Life Assessment, and Health Monitoring

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System